Practice Makes Progress

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Dr. Harpreet Kochhar

never know where a degree in veterinary

Dr. Joanne Hewson’s commitment to teaching, research, educators, and professionals.

Last fall we welcomed the first cohort of OVC students to our new Enhanced Clinical Skills teaching space. This state-of-the-art space further strengthens our technical skills and teaching for student veterinarians. Here, students have a dedicated space to learn and practice these skill sets, including surgical instrument handling, suturing, dentistry skills and clinical communication, allowing them to gradually increase their proficiency and their confidence.

There have been many positive notes this past year, with innovative research findings, new faculty members bringing unique expertise to our college, continued support for our world-class academic and research programs, and the completion of renovations to the anaesthesia, endoscopy and surgical facilities in the OVC Health Sciences Centre.

We look forward to the day when we can welcome you back to OVC. In the meantime, stay safe and be well.

Dr. Jeffrey Wichtel, EVC, FACVSc, ACT
Professor and Dean, Ontario Veterinary College

Dr. Jeff Wichtel Reappointed OVC Dean

Wichtel’s second term aims to build external relations with the agri-food sector, alumni, donors, government and industry partners, as well as veterinary corporate partners focused on improving companion animal health. With the aim to build further external relations for the college, Wichtel has secured notable philanthropic support for research and teaching facilities, training, diagnostic tools, student well-being and experiential learning, veterinary mental health research and scholarships and bursaries.

Under Wichtel’s leadership and working with industry partners, OVC has created the Animal Health Partners Chair in Veterinary Medical Innovation, a new endowed chair aimed at accelerating the translation of veterinary medical innovation from laboratory to patient.

Throughout the COVID-19 pandemic, Wichtel empowered the OVC leadership team to pivot teaching approaches, maintain time-sensitive research and deliver essential animal services.
THE GROWING DEMAND FOR VETERINARIANS

As Ontario’s population continues to grow—and the demand for veterinary services follows suit—graduating DVM classes entering the job market are well-positioned for professional success. Results of a 2020 study by the Canadian Veterinary Medical Association confirmed that demand for veterinary services has or will soon exceed capacity in most parts of Canada. The COVID-19 pandemic has compounded the issue as practices integrate public health measures into care delivery.

The Ontario Veterinary College (OVC), the College of Veterinarians of Ontario (CVO) and the Ontario Veterinary Medical Association (OVA) are working together on measures to help address the shortage of veterinarians across the province, and to help public and private veterinary healthcare teams adapt to the increased demand and capacity for veterinary services.

Some of this work is already underway. OVC is currently in discussion with public and private sector stakeholders on a range of topics relevant to veterinary training. The CVO and OVA are looking at opportunities to enable veterinarians to better utilize the knowledge and skills of veterinary technicians. As well, exploring options for after-hours care and the delivery of emergency veterinary services are important considerations.

Other strategies to consider include: increasing domestic training capacity and increasing efforts to recruit veterinarians trained outside of Ontario, increasing the use of digital tools, such as telemedicine; supporting the business sustainability of practices and emergency services in under-served regions of Ontario; and providing incentives to encourage veterinarians to train and work in parts of the province experiencing poor access to care.

While few of these options can be implemented immediately, as leaders in the veterinary profession in Ontario, the OVC, the CVO, and the OVA are exploring all options to ensure the public’s access to safe, quality veterinary medicine.
For decades, researchers at the Ontario Veterinary College (OVC) have studied the relationships between global health systems, spanning human, animal, and environmental health. Over time, ecosystem health has become a recognized academic field, gaining significant momentum in the 1990s.

Ecosystem health is by its very nature collaborative, taking a co-operative approach to understanding and promoting human health and well-being in the context of complex social and ecological interactions. This work serves as the foundation for the concept of One Health. Dr. David Waltner-Toews, U of G professor emeritus and author, credits Dr. Ole Nielsen, OVC Dean from 1985 to 1994, for the innovative leadership that helped place OVC on the map as an acknowledged leader in the field of integrative approaches to animal, human, and ecosystem health.

Nielsen first became interested in environmental health while serving as Dean at the Western College of Veterinary Medicine in Saskatchewan. His research group encountered leaf mercury poisoning in pigs which prompted further research that resulted in the first documentation of mercury pollution in a Canadian river.

In 1991 Nielsen used an administrative leave and a grant from a federal advisory council for science and technology to investigate how the concept of health could be more widely applied to the environment. While the term environmental health was commonly used at the time it generally referred to toxicological issues, notes Nielsen.

"I came to realize it was essential to define the meaning of health so it could be applied at the ecosystem level. In short, the ecosystem approach is essential to manage health," he adds.

He advocated for a more central role for this approach in veterinary medicine, first in an article in the Canadian Veterinary Journal in 1992, and then later in other publications. "To the best of my knowledge, this was the first such advocacy in a veterinary publication," says Nielsen.

"I came to the conclusion that the scope of veterinary medicine, simply put, encompasses the health of animals, people and ecosystems (One Health)," says Nielsen. "This is an enormous challenge and one that veterinary medicine is well suited, and I would add, obliged, to tackle given its foundation in biology and comparative medicine."

He encouraged and worked with OVC faculty members Waltner-Toews (Population Medicine) and Dr. Bruce Hunter (Pathobiology), who were similarly interested in the ecosystem health concept.

Waltner-Toews then led an interdisciplinary group at the U of G who ardently acquired grants for agricultural ecosystem health research and established relationships with University of Waterloo researchers working in parallel on the concept of ecosystem integrity.

To introduce these concepts to student veterinarians, Hunter and Waltner-Toews, were the driving force for the creation of an Ecosystem Health rotation for final year Doctor of Veterinary Medicine (DVM) students. The rotation is held in conjunction with veterinary faculty across Canada and remains part of OVC’s curriculum today. The course exposes students from across Canada and from international colleges of veterinary medicine to complex real-world problems and provides hands-on training in the work necessary to manage these issues and develop solutions.

Waltner-Toews points to numerous initiatives that further expanded growth in this area. "We became founding members of the CoPEH-Canada (Commu- nity Approaches to Ecolhealth). We wrote manuals for teaching these new approaches both in Canada and internationally, led major research projects on West Nile, Lyme Disease, Avian Influenza and agro-ecosystem health, and were the driving force for the establishment of Veterinarians Without Borders - Canada, an international development organization which explicitly takes an ecolhealth – One Health approach."

He also highlights the importance of the establishment of the Canadian Cooperative Wildlife Health Centre (CWHC) in 1992 with its focus on wildlife health. Wildlife can have a significant impact on ecosystem health as they can be carriers of parasites or diseases that can be migrated to new geographies, transferred to other animals or even humans. The CWHC now has nodes at each of the veterinary colleges across Canada, with the Ontario/Nunavut Regional node at OVC.

The development of these training programs has been instrumental in effecting change and making an impact on the complex health issues we face. Graduates become valued collaborators and advocates of One Health concepts. Waltner-Toews notes that OVC DVM 2000 alumna Enid Sipes, past president of the Canadian Veterinary Medical Association, was a founding member of Veterinarians Without Borders, and Dominique Charron, an OVC DVM 1990 graduate who completed her PhD with Walt- ner-Toews, headed the Ecosystem and Human Health program with Canada’s International Develop- ment Research Centre, and is now its Vice President, Programs and Partnerships.

This early work provided the momentum for adopting One Health as a central strategic pillar for OVC. Global health conferences were hosted at U of G in 2012 and 2014. Notable expansion of pub- lic health research and training ensued, including the establishment of a new centre of excellence, Centre for Public Health and Zoonosis, in 2006, previously led by Dr. Jan Sargant and now Dr. Scott Weese. Over time, OVC launched a full range of public health degree programs including the Masters in Public Health and the combined DVM-MPH.

The U of G One Health Institute (OHI), established in 2019, is further encouraging scholarship and developing partnerships to lead in One Health approaches, engaging the entire U of G campus and beyond, realizing the long-held goal of true interdisciplinary collaboration.

The U of G OHI "looks very well-conceived and executed. I am on my compliments to Dean Jeff Wichtel and his colleagues on the university’s initiative. The OHI is ideally positioned to be a world leader in promoting ecosystem health," notes Nielsen.

One Health can be a difficult concept to grasp. “Part of the challenge is the complex nature of the problems; there’s no one way to frame them or address them. The answer that seems simple suddenly isn’t so simple anymore,” says Walt- ner-Toews.

The collaborative nature of One Health work is integral to finding those answers. “Nobody can encompass everything”; he notes. “The way to approach such complex issues is through collaboration.”

Veterinarians have always played an important role in protecting public health. Now, against the backdrop of a global pandemic caused by a zoonotic pathogen, we have been once again reminded of the interconnectedness between animal and human health.
As Associate Dean, Students and Academic (ADSA) for the Ontario Veterinary College, Dr. Joanne Hewson’s title may be succinct, but her portfolio covers a broad area.

In her role as a key member of the OVC senior leadership team, Hewson is responsible for providing leadership in advancing the professional and personal development of students in the Doctor of Veterinary Medicine (DVM) program, curricular innovation and oversight, as well as DVM student recruitment and career readiness.

Maintaining calm in the face of uncertainty was another leading feature of Hewson’s job description that rose to the forefront during the COVID-19 pandemic. In her ADSA role, Hewson was frequently in touch with students in all four phases of the DVM program at OVC and all instructors, at every stage of the pandemic and now throughout the recovery phase.

As communication needs of the students and faculty evolved over the pandemic, Hewson took great care to adopt new ways of receiving input from everyone and sought to understand new challenges and barriers as they emerged, so that solutions could be identified through shared conversation. “The saying that it takes a village to raise a child certainly true,” says Hewson. “So many student leaders, faculty, staff and administrative members of the OVC team each played key roles in keeping communication channels open and supportive. I am proud of the ways in which our OVC community has stayed empathetic with each other, as we worked through some incredibly significant pinch points together.”

Hewson’s leadership through the pandemic is a reflection of her lifelong commitment to teaching student well-being and to the student experience. A Large Animal Intern, OVC DVM 1996 and PhD 2003, Department of Clinical Studies, Hewson has continued to teach in the DVM program since her appointment to the position. She taught in the DVM program from 2003 to 2018, as an instructor on the front line, ensuring essential skills training was continued so that our student veterinarians could progress in their program in meaningful ways despite the pandemic. I was able to deeply understand the needs of other instructors and personally connect with students. We were able to implement carefully co-tailored safety plans and deliver training while maintaining a safe learning environment for all of the students,” she says. “She worked with faculty to help transition courses to a remote format and safely deliver hands-on skills labs to DVM students. She also worked with the admissions team to pivot to an online situational judgment test for applicants, along with virtual interviews, to replace the traditional face-to-face Multiple Mini Interviews.

Despite the constant need to manage pandemic-related challenges to the DVM program, Hewson has also remained actively involved in leading a variety of initiatives related to curricular design and redesign, and supported faculty seeking to expand their teaching strengths or to enhance student training. “The University as a whole has made great strides towards allowing our students to use their teaching to excel in that area, do lifelong commitment to teaching, and to the student experience. A Large Animal Intern, OVC DVM 1996 and PhD 2003, has contributed to the DVM program since her appointment to the position. She taught in the DVM program from 2003 to 2018, as an instructor on the front line, ensuring essential skills training was continued so that our student veterinarians could progress in their program in meaningful ways despite the pandemic. I was able to deeply understand the needs of other instructors and personally connect with students. We were able to implement carefully co-tailored safety plans and deliver training while maintaining a safe learning environment for all of the students,” she says. “She worked with faculty to help transition courses to a remote format and safely deliver hands-on skills labs to DVM students. She also worked with the admissions team to pivot to an online situational judgment test for applicants, along with virtual interviews, to replace the traditional face-to-face Multiple Mini Interviews.

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As a guiding principle in her ADSA role, Hewson has remained committed to seeing students succeed while maintaining high-quality training, curricular excellence, and delivering a student experience that embraces people’s differences and is founded in compassion. “It’s not only about what we teach students in the four years that they are with us,” says Hewson. “It’s about making sure they’re ready for the next 20 years so that, as a profession, our graduates can remain resilient, flexible and nimble to the changing times.”
Practice Makes Progress

OVC opens doors to new state-of-the-art facility for clinical skills training

A new state-of-the-art facility, which opened to students in fall 2020, will further enhance the Ontario Veterinary College’s (OVC) approach to hands-on, experiential learning and commitment to innovative training programs. The new Enhanced Clinical Skills Addition provides students with access to a dedicated clinical skills space, new communications teaching labs, and flexible teaching space for adaptive learning. The clinical skills space will also provide students with the opportunity to access a library of clinical models to improve their capability outside of class hours, if they wish, further enhancing OVC’s student-centered approach.

Communication labs have been configured as exam rooms, providing students with a realistic space to practice client-veterinarian conversations.

The new space has been designed to accommodate small group discussions and meetings among student veterinarian practice groups, providing more opportunities for students to work together and connect, and fostering informal learning. There has been a ripple effect with the opening of the new building, with the temporary classroom on the second floor of the main OVC building being subsequently converted to a lounge space for DVM students.

“I think that lounge space will be critical as we continue to focus our efforts in the realm of student well-being,” says Dr. Joanne Hewson, Associate Dean, Students and Academic.

“Communication labs have been configured as exam rooms, providing students with a realistic space to practice client-veterinarian conversations.”

Clinical skills models come in all shapes and sizes, literally. Many in use in OVC’s clinical skills labs were developed in-house by instructors to meet their students’ particular needs.

Since the Dog Abdominal Surrogate for Instructional Exercises class model – DASIE for short – was introduced in their surgery course to help students develop their surgical and suturing skills (see back cover), simulation models have continued to be an important component in clinical skills training. The DASIE model remains a mainstay in the clinical skills curriculum with each first-year student provided a model by Boehringer Ingelheim.

In their second year of the OVC DVM program, student veterinarians build a spay model crafted from braids for ovaries, suture for the uterus and artificial suede cord, which they then must use to practice the steps for an ovariohysterectomy procedure using their DASIE model under faculty supervision. Developed by Clinical Studies professor Dr. Brigitte Brisson, the models help students understand the uterine anatomy and gain confidence with this procedure prior to live animal surgery.

“Many of the materials and models we use in our labs emulate real life,” says Brisson. “Giving students the ability to learn without the stress of moving from a textbook directly to a real patient allows them to practice and build confidence.”

“We have 3-D printed model cat and dog legs for practicing intravenous catheterization developed through collaboration with the School of Engineering,” says Dr. Andria Joy, coordinator of clinical skills training in the Department of Clinical Studies.

Students also practice incisional and excisional biopsy skills with oncology silicone models created by Dr. Michelle Delak, a surgical oncologist and Clinical Studies associate professor. The silicone models include masses, simulated skin, fascia, and muscle layers to provide students with a realistic example.

Recently, Clinical Studies professor and anesthesiologist Dr. Carolyn Kerr worked with Claudia Smith, a PhD student from the School of Engineering, to create a 3-D printed model of a cat. The model permits students to practice tracheal intubation, a procedure that allows for the delivery of anesthetics and oxygen to the lungs through a tracheal tube. Intubation is a key skill and an important task for students to master before they move on to performing general anesthesia on veterinary patients.

Another recent addition is a bovine paravertebral block model built with assistance from engineering graduate student Michael Lissemore. Equipped with sensors embedded in silicone, the model is used to teach students how to administer a paravertebral nerve block, frequently used to permit surgery in cattle in the field. Learning how to do nerve blocks in standing cattle can be challenging, and the models help students develop confidence, notes Joy.

“We made a giant sheet of silicone that is thicker at one end and thinner at the other to replicate the muscles of a cow’s back, one model slightly thicker to simulate a beef cow and one slightly thinner to simulate a dairy cow.”

“The sensors placed within the silicone model mimic the nerve location and light up when students administer the needle with the nerve block to the correct spot, providing them with immediate, positive feedback.

“The fact that the college is committing time and resources towards building these models has been a major pedagogical shift – a very exciting one – towards enhancing student proficiency and confidence in their learning,” says Hewson.

Beyond the clinical skills lab in the Enhanced Clinical Skills Addition, models are often incorporated into teaching, from an udder to teach how to collect a milk sample from a teat, to scoring models for sheep that help train students to assess body condition, to a full-size horse model donated by the Equine Foundation of Canada and incorporated into the curriculum in 2018. In addition to an anatomically correct reproductive tract, the advanced horse model includes the spine, kidneys, and digestive tract so students can palpate for normal and colic conditions. Students can also practice intramuscular injections, as well as jugular venipuncture for blood sampling (of imitation blood) on this equine model.

What is a Clinical Skills Learning Model?

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Photo credit: Jane Dawkins

Infrastructure renewal at the Ontario Veterinary College (OVC), including the new spaces for enhanced clinical teaching and learning, as well as advanced surgery and anesthesia facilities in the OVC Health Sciences Centre, have been made possible by a $23 million investment from the provincial government. announced in March 2016.
Building the clinical communication skill set

Communication touches every aspect of veterinary medicine from client to team interactions. Just as technical skills are honed by repeated practices, continual refinement of clinical communication skills is a critical component in building the student veterinarian’s skill set.

Clinical communications

The Crest College of Veterinary Medicine has established an active research program examining human-animal relationships as well as the role of interpersonal communications on the outcomes of veterinary care.

Student veterinarians gradually expand their skill sets into different clinical scenarios as they move from a clinical skill set, including lectures introducing different communication skills and strategies, and bringing them into labs for some initial contact with simulated clients.

Second-year students get into more complex conversations around topics such as the cost of veterinary care, breaking bad news and navigating informed consent, while third-year students delve into more difficult conversations such as end-of-life discussions.

Videos of their simulated client interactions are an important tool for students as it provides them an opportunity to review on things that worked well and areas they might change.

Deliberate practice and a stepwise approach

Deliberate practice and self-reflection are important focus areas in learning vital technical skills. So too, is a stepwise approach.

In addition to fundamental courses in principles of disease and clinical medicine during their first three years of study, DVM students at OVC focus on developing the technical and clinical skills they need to accompany this knowledge.

In OVC’s clinical skills labs, complex technical or psychomotor skills are broken down into simpler tasks so students can gain competency before stepping up to the next level, explains Kerr.

Over the past several years, Brisson has transitioned the classroom-based principles of surgery curriculum into a hands-on skills lab. Beginning in their first year, students are introduced to basic surgical skills such as instrument handling and suture patterns. Second-year students learn about surgical asepsis including patient and surgeon preparation, growing and draping skills through a variety of lab-based exercises.

Deliberate practice and self-assessment is a crucial skill for DVMs, notes Kerr.

”The breadth of skills provided by veterinarians keeps expanding. As educators, we need to continue to evolve and expand our skills training over time to continue to improve our graduates and expand our skills training over time," says Hewson.

"Our communications program is strength of the college and our students have excellent opportunities for training and practicing their skills in this area," says Hewson.

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From his roots as a small animal veterinarian to his appointment as the Associate Deputy Minister of Health Canada (with many adventures in between!), Dr. Harpreet Kochhar’s career is proof ‘you never know where a degree in veterinary medicine will take you.’

One Health brings diverse perspectives to problem solving. As a veterinarian, what would you like Canadians to understand about One Health, and can you describe how you have seen this approach in action and how it improves outcomes for your patients?

A classic definition of One Health recognizes that the health of people is closely connected with the health of the environment, the health of animals and the shared environment. People probably do understand this concept, but we all think in silos—big policy makers and researchers. When we are faced with a crisis like a pandemic, our focus is on preventing disease spread and making sure we are able to find vaccines. This type of thinking is important in what we might call the wartime; the focus will be different during peacetime. The peacetime is when we can reflect on what we might call the wartime; the focus will be different in the wartime.

What advice do you have for DVM students who would like to follow a similar career path to yours?

At one point in my career, each of us will come to a fork in the road. I came to the CFIA to develop regulations for food derived from cloned and transgenic animals. When they hired me, I asked, “Do you need a veterinarian to do that?” They said, “We need a veterinarian, and we need a PhD who knows animal biotechnology, and who knows about the regulatory environment and how to manage the process.”

How have the values of veterinary medicine informed your work in your various roles in the public service and especially your role in health?

Veterinarians must be compassionate when working with animals; you need decision-making and problem-solving skills, diagnostic and differential diagnostic skills, and interpersonal skills. These things build the spirit and the culture of integrity and excellence. They are the values any veterinarian carries.

What is a results-oriented person, and how do you find satisfaction in your work in both veterinary medicine and public health?

While it may not be doing veterinary surgery, it may be finding different ways to use the medicine here. I am using a lot of the tools I learned in my training to be a good veterinarian in new ways.

One Health is not a new concept, but it has become more important in recent years. I think the areas of work in which the One Health approach is particularly relevant today is with zoonoses; the spread of disease between animals and humans, as well as with antimicrobial resistance. The bacteria or the microorganisms change their environment, and we need to be proactive and responsive to changing conditions.

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While it may not be doing veterinary surgery, it may be finding different ways to use the medicine here. I am using a lot of the tools I learned in my training to be a good veterinarian in new ways.

One Health is not a new concept, but it has become more important in recent years. I think the areas of work in which the One Health approach is particularly relevant today is with zoonoses; the spread of disease between animals and humans, as well as with antimicrobial resistance. The bacteria or the microorganisms change their environment, and we need to be proactive and responsive to changing conditions.
In early 2021, researchers at the University of Guelph’s Ontario Veterinary College (OVC) launched a new mental health literacy-training program developed for agricultural communities. Dr. Andria Jones-Bitton, OVC DVM 2000, a professor in OVC’s Department of Population Medicine, and OVC’s Director of Well-Being Programming, collaborated with Dr. Briania Hagen, OVC PhD 2020, to create the In the Know program to help farmers improve their mental health knowledge and build their confidence in recognizing mental health struggles, speaking to others, and helping others who are struggling.

The program covers topics such as stress, depression, anxiety, and substance misuse, as well as how to start a conversation around mental health and mental health care. The program is run by the Canadian Mental Health Association (CMHA) Ontario, which enlists mental health professionals with agricultural backgrounds and/or partners them with members of the agricultural community to deliver the training to farmers, and individuals who work closely with farmers, in a four-hour session.

In order to meet the needs of farmers, Jones-Bitton and Hagen developed this training program in close collaboration with various agricultural sectors, mental health professionals, government and representatives from social work, psychology, and education.

An evaluated pilot of the In the Know workshop, spearheaded by Jones-Bitton and Hagen in 2019, demonstrated success in increasing participants’ mental health knowledge and literacy. Now that the program is up and running in Ontario, Manitoba, Nova Scotia, Alberta, and British Columbia, Jones-Bitton and Hagen are identifying new partner organizations to facilitate making this training available in agricultural communities across Canada. French translation of materials is almost complete and Spanish translation is underway by request for several agricultural workers.

This research on farmer mental health and well-being began in 2015 with funding from the Ontario Ministry of Agriculture, Food and Rural Affairs through the Ontario AgriFood Innovation Alliance. Jones-Bitton and Hagen are identifying new partner organizations to facilitate making this training available in agricultural communities across Canada. French translation of materials is almost complete and Spanish translation is underway by request for several agricultural workers.

Alex Sawatzky has a passion for art and science. She is interested in both sides of my field - a lot of the time in the work that I do,” says Sawatzky. “Deciding has always been a way of visualizing and communicating information for me.”

When she joined the Ontario Veterinary College (OVC) to pursue her PhD studies, Sawatzky pivoted her thinking into a unique approach to art and illustration that informed her research and continues to help her communicate concepts and themes to all kinds of audiences.

The first PhD graduate in Public Health in OVC’s Department of Population Medicine, Sawatzky will tell you that the journey with her research was all about relationships.

Sawatzky’s PhD studies focused on developing an in-vr environment and health monitoring program with the community of Rigolet, Labrador, to use as they adapt to current and future climate change. Sawatzky’s co-advisors, Dr. Sheri Harper, formerly a faculty researcher in OVC’s Department of Population Medicine and now at the University of Alberta, and Dr. Ashlee Cunsolo, formerly at Cape Breton University and now at the Labrador Institute of Memorial University, had long-standing relationships and research partnerships with Rigolet Inuit.

During the final year of her undergraduate degree at U of G and the following year Sawatzky worked in Harper’s lab. Her work in the lab with Harper and Cunsolo evolved into her PhD project.

As she built relationships with Rigolet Inuit and other partners involved in the research project, Sawatzky drew on her natural inclination to use art as a way of communicating and mobilizing the research. “I think the visual component came out because that’s how I understand things.”

She began by talking with the Rigolet Inuit about what health and well-being means, what the environment means in relation to well-being, and why it’s important to track changes in the environment. From these discussions, it became clear that “well-being” was about connection to place, a sense of identity, purpose and belonging, and premised on relationships with the land.

“What do relationships with the land mean to this particular community?” How does that inform priorities in terms of developing responses to climate change?” Sawatzky asks. “These priorities are often determined by the specific relationships that people have with the places that are changing around them. Incorporating these place-based relational concepts into a public health monitoring program is essential, especially when we’re looking at a big issue like climate change that affects everyone but affects everyone so differently.”

Over the course of her research, each time Sawatzky returned to the community with a summary of previous conversations, she often brought accompanying visuals in the form of infographics. “We would talk about the visuals together, revising and shaping the direction of the research based on that. I think with visuals there is lots of room for expansion and playfulness and back and forth. I didn’t want to impose my own interpretations, I wanted to ask ‘here’s what I heard you say, is this a correct interpretation? Using visuals as tools allowed me to shape and strengthen my research project and partnership with that community.”

It’s a partnership that continues to grow. Sawatzky is again working with Cunsolo, who was recently appointed founding Dean of the new School of Arctic and Subarctic Studies at the Labrador Institute of Memorial University. Sawatzky is the Special Projects Manager for the Labrador Institute, helping to oversee the development and growth of the new School.

The School will provide programming that is Northern-led and focused. “There is huge value in creating and strengthening place-based educational programming, research, and infrastructure that honours Northern Indigenous self-determination over what education can look like.”

Ultimately, it comes back to relationships for Sawatzky. “I think it’s important to remember that research is always about relationships,” she says. “And relationships don’t always have to be among people. Even if you’re working in a lab, you’re building relationships with the specimens you’re working with - they came from someone or somewhere, and they are helping you contribute and relate new understandings, within a collective knowledge base.”

“I THINK IT’S IMPORTANT TO REMEMBER THAT RESEARCH AND EDUCATION ARE ALL ABOUT RELATIONSHIPS.”
People with multiple ailments have complex treatment needs that prove challenging to practitioners – and to themselves. For example, research shows people affected by schizophrenia are three to 10 times more likely to have a substance use disorder (SUD) than the general public. In fact, medications used to treat schizophrenia can often worsen a patient’s SUD.

Dr. Jibran Khokhar is an assistant professor within the Ontario Veterinary College’s Department of Biomedical Sciences at the University of Guelph. Khokhar’s research lies at the intersection between serious mental illness and drug addiction, a chicken-or-egg question that has proven difficult to answer. He is working to broaden the understanding of schizophrenia and SUD’s effects on the brain.

Patients with schizophrenia have lifespans 10 to 25 years shorter than the general public. Evidence suggests this is mainly caused by high rates of drug use, says Khokhar.

His research focuses on understanding why SUD – dependency on nicotine, cannabis and alcohol – is so high in those affected by schizophrenia and how these substances interact to affect the brain. Khokhar will use this information to develop a more effective treatment for people with co-occurring schizophrenia and SUD.

“To improve outcomes, we need to start with understanding the reasons behind the increased prevalence of drug use and identify potential variations in brain activity,” he says.

Researchers believe that people with co-occurring schizophrenia and SUD may have a dysfunction in the brain’s reward system which leads to greater incidences of drug dependency.

However, this isn’t the only driver. Elements of cannabis and nicotine might also alleviate cognitive deficits or anxiety disorders in these cases. This means patients may be self-medicating with cannabis or nicotine, says Khokhar.

His research seeks to answer how much of this behaviour is self-medication or how much is from a dysfunction in the brain’s reward system.

To understand why patients with schizophrenia use drugs, Khokhar is studying the brain activity of rat models of schizophrenia that consume alcohol, cannabis and nicotine using functional magnetic resonance imaging, or fMRI. The rat’s brain shows similar changes to those observed in patients with schizophrenia. This understanding of brain activity in those with co-occurring schizophrenia and SUD will hopefully lead researchers to develop better treatment options without amplifying the SUD.

“Current research tells us that there is a relationship between SUD and schizophrenia. But we don’t yet know if SUD increases the risk of schizophrenia or if schizophrenia predisposition increases the risk of SUD,” he says.

Khokhar is exploring genetics for a possible answer. Next steps include analyzing genetic variations that would predispose a person to schizophrenia or SUD to find the relationship. Khokhar is also looking into the concurrent use of cannabis with nicotine or alcohol during adolescence. The research will assess the short-term and long-term effects of multi-substance use on memory and learning.

This work was funded by the Canada Foundation for Innovation and Canadian Institutes of Health Research.
Researchers at the University of Guelph are examining how outdoor air pollution, or smog, affects the respiratory health of horses in the Guelph-Kitchener-Waterloo area. In humans, increased air pollution – specifically the presence of fine particles, nitrogen dioxide, and ozone – is known to play a role in the development and triggering of asthma. Dr. Janet Beeler-Marfisi, a professor in the Department of Pathobiology at the Ontario Veterinary College (OVC), is researching whether the same factors play a similar role in the development of mild equine asthma (MEA) in horses.

Mild equine asthma, accompanied by symptoms like intermittent cough and increased numbers of inflammatory cells in the lower airways, is common in young sport horses, and its effects are particularly problematic for racehorses. As racehorses are elite athletes, any decrease in lung health, such as cough or inflammation, has a significant negative impact on athletic performance. Beeler-Marfisi’s interest in smog and MEA stems from her own struggles with asthma and her love of Standardbred racehorses. “The role of air pollution hasn’t been fully investigated in horses,” says Beeler-Marfisi. “We wanted to determine if a relationship exists between increased air pollution or temperature and asthma and MEA in horses.” The Ontario government has a tool called the Air Quality Health Index (AQHI) that can be used to determine how much outdoor activity is safe for humans when air pollution, and the associated AQHI, are high. “We wanted to see if the AQHI could be used by horse trainers to predict when they should avoid high intensity training in order to protect their horse’s lung health.”

The research team retrieved records from cases at the Animal Health Laboratory at the U of G in which cell samples had been taken from the horses’ lower airways. They pared down the data to make sure that the samples were taken from horses in specific geographic regions with similar air quality and that had reliable weather and air quality recording programs. From there, the team looked at the meteorological data corresponding to the time that certain horses developed lung issues to see whether temperature also affected the horses.

Beeler-Marfisi’s research group identified 154 Standardbred racehorses with records that fit their criteria. Of these, 78 cases had increased levels of lung inflammatory cells. On average, the horses were four years old which is young. This means that 51 per cent of the racehorses in the Guelph-Kitchener-Waterloo area had MEA during this 10-year period – which is high and means that these horses could have had reduced athletic performance as a direct result of exposure to air pollution.

Although it is unclear exactly how temperature affects asthma in humans, increased ambient temperature was another risk factor for the development of MEA in horses. These findings support the idea that inflammation of the respiratory tract in horses develops in a similar way to asthma in humans in response to air pollution, “This is the most comprehensive study investigating the relationship between outdoor air pollution and lung inflammation in horses. And it’s the first to examine the association of the AQHI with horse lung health,” says Beeler-Marfisi. “Our results expanded on the current understanding of how exposure to higher air pollution can affect the health of horses in the Guelph-Kitchener-Waterloo area, and has identified air pollution as an important target for future research in MEA and other lung diseases of horses.”

This research was funded by a grant from Equine Guelph. Researchers at the University Veterinary College (OVC) are working to identify dairy cattle that are genetically resistant to heat stress and better able to withstand the issues associated with climate change.

Climate warming presents numerous environmental challenges, including more frequent extreme weather events such as heat waves. Climate change is anticipated to significantly impact the Canadian agricultural industry, as livestock struggle to adapt to constant changes in environmental conditions. Dairy cattle are especially affected as they have been identified as one of the most prone livestock species to elevated temperatures and high humidity. Heat stress in cows occurs when they generate and absorb more heat than they can easily get rid of through respiration or sweating. When exposed to heat stress, dairy cattle can face reproductive issues, reduced milk production, and increased health issues. Shannon Cartwright, a PhD candidate in OVC’s Department of Pathobiology, is leading a research team to identify dairy cattle that are more thermoequilibrated – or resistant to heat stress – and thereby resilient to climate change. Cartwright hopes her research will address the problems associated with heat stress for dairy cattle, as well as help to alleviate the pressure of climate change on the dairy industry as a whole.

“I have always been passionate about the dairy industry and finding ways to help dairy producers and cattle,” says Cartwright. “If we don’t identify animals that are resilient to heat stress, we will face increasing issues with dairy cattle as our climate continues to warm.” Cartwright is advised by Dr. Bonnie Malard, the inventor of the High Immune Response and Immunity technologies that identify naturally healthier cows with improved health responses. This research was supported by the Canadian Food Excellence Research Fund. Final From Thought, Dairy Farmers of Ontario, and the Ontario Veterinary College.
DOCTOR OF PHILOSOPHY
Pamela Asadan

POPULATION STUDIES
David Borish
Angelo Buonamici
Khorlo L Cair
Salvatore Magi

GRADUATE STUDENTS
Co-ordinator: Claire Atchison

2021 CONVOCATION
CONGRATULATIONS TO OUR NEAREST ALUMNI

ONTARIO VETERINARY COLLEGE
Class of 2021

GRADUATE STUDENTS

Masters of Public Health

1. Muhammad Ali Ben Haddouch
   2. Amanda Dorothy Margaret Meredith Garcia
   3. Benjamin Myles Fuller
   4. Bret Lauren Flynn
   5. Devon Marcie Edwards
   6. Tasmin Elizabeth Dunkin
   7. Alicia Dagg
   8. Cecilia Lynn Creighton
   9. Melodi Cheung
   10. Alessandra Chek-Harder
   11. Carleigh Alicia Cathcart
   12. Matthew Derek Ross Cadorin
   13. Rachel Lindsey Budd
   14. Rachel Anne Boutette
   15. Emese Bonniere
   16. Colleen Anne Apt
   17. Aaron Amadio

2021 DOCTOR OF VETERINARY HEALTH

Amanda Dorothy Margaret
Meredith Garcia
Benjamin Myles Fuller
Bret Lauren Flynn
Devon Marcie Edwards
Tasmin Elizabeth Dunkin
Alicia Dagg
Cecilia Lynn Creighton
Melodi Cheung
Alessandra Chek-Harder
Carleigh Alicia Cathcart
Matthew Derek Ross Cadorin
Rachel Lindsey Budd
Rachel Anne Boutette
Emese Bonniere
Colleen Anne Apt
Aaron Amadio

2021 MASTERS OF PUBLIC HEALTH

1. Muhammad Ali Ben Haddouch
   2. Amanda Dorothy Margaret Meredith Garcia
   3. Benjamin Myles Fuller
   4. Bret Lauren Flynn
   5. Devon Marcie Edwards
   6. Tasmin Elizabeth Dunkin
   7. Alicia Dagg
   8. Cecilia Lynn Creighton
   9. Melodi Cheung
   10. Alessandra Chek-Harder
   11. Carleigh Alicia Cathcart
   12. Matthew Derek Ross Cadorin

2021 CELEBRATING OUR GRADUATES’ AWARDS, HONOURS AND ACCOMPLISHMENTS

University Professor Emerita by the University of Budapest.


Dr. Barry Heath, OVC DVM 1972, recently published Odyssey and Shammy Bo to School, a book about guide dogs in Canadian society.

Dr. Scott Woos, OVC DVM 1994, Director of the U of G’s Centre for Public Health and Zoonosis and a veterinary internal medicine specialist in OVC’s Department of Pathobiology, was inducted as a Fellow with the Canadian Academy of Health Sciences (CAHS). CAHS Fellows are world-renowned leaders and innovators who have a history of outstanding performance in the academic health sciences in Canada.

Dr. Dorothy Bezio, OVC DVM 1988, in OVC’s Department of Pathobiology, and Jan Sargeant, OVC DVM 1984, in OVC’s Department of Pathobiology, were recognized with the Canadian Academy of Health Sciences (CAHS). CAHS Fellows are world-renowned leaders and innovators who have a history of outstanding performance in the academic health sciences in Canada.

New faculty joining the Department of Clinical Sciences include: Dr. Roxanne Buck, Allison Collier, OVC DVM 2017; Nicole Cribb, Caitlin Grant, OVC DVM 2014, and Amy Leach.

New faculty joining the Department of Pathobiology include: Dr. Grazzia Maboni, Heather Murphy, Canine Research Chair, One in Health; Courtney Schuit, OVC DVM 2010; Mauricio Seguel; and Sam Meekison.

Dr. Basem Gohar and Kelsey Spence, OVC PhD 2017, joined the Department of Population Medicine.

NEW TO HSC

Dr. Christopher Dutton joined the Avian and Exotics service.

RETIRING FACULTY

Dr. Mark Hurtig, Department of Clinical Studies, retired November 20.

Dr. Brenda Coomer, Department of Biomedical Sciences, retired January 2021.

NEW FACULTY

Dr. Melissa Perreault and Sarah Payne joined the Department of Veterinary Surgery.

2021 PASSAGES


Dr. Terry Ford, OVC DVM 1985, passed away on April 7, 2020.

Dr. Ronald S. Horning, OVC DVM 1955, passed away on May 25, 2021.


Dr. Jeanne Beela-Douglass, OVC DVM 1957, passed away on May 9, 2020.

Dr. Donald Stewart MacDonald, OVC DVM 1970, passed away April 24, 2020.


Dr. Paul Forsy, OVC DVM 1984, passed away October 27, 2020.


Dr. Gordon Finlay, OVC DVM 1967, passed away on November 30, 2019.

Dr. Gardena Verway, OVC DVM 1967, passed away on February 3, 2019.

Dr. Lloyd Wieringa, OVC DVM 1967, passed away on February 11, 2021.

Dr. Harry O. Pearce, OVC PhD 1968, passed away November 20, 2020.

Dr. Wolfgang Latzke, OVC DVM 1969, passed away July 18, 2021.


Dr. Melanie (nee Fisher) Glenn, OVC DVM 1979, passed away November 30, 2019.

Dr. Tom Gutteridge, OVC DVM 2013, passed away on August 5, 2020.

For more college updates visit www.ovc.uoguelph.ca/alumni

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In 1991, OVC Small Animal Surgery Professor David Holmberg developed a model for surgical teaching called the Dog Abdominal Surrogate for Instructional Exercises (DASIE). DASIE continues to help teach the principles of abdominal surgery, including abdominal draping, aseptic technique, use of surgical instruments, and the fundamentals of tissue handling, without the use of animals. This experimental learning model has been integrated into many undergraduate veterinary surgery programs throughout the world.

Excerpt taken from: Milestones: 150 Years of the Ontario Veterinary College

COMING EVENTS

- **OVC PROFESSIONAL WELCOME CEREMONY**
  OVC Class of 2025
  October 2, 2021

- **OVC STUDENTS ANIMAL WELFARE CLUB**
  Animal Welfare Forum
  October 2021

Please update your email contact information at alumnirecords@uoguelph.ca so we can keep you up-to-date on future events.

Did you know Alumni Affairs helps organize class reunions? Find more information at www.alumni.uoguelph.ca/alumniweekend/reunions or contact OVC’s Alumni Advancement Manager, Amy Tremaine at tremaina@uoguelph.ca or 519-824-4120 ext. 56679.

The University of Guelph, and by extension OVC, is a registered charity. Your contribution can support the area of your choice or OVC’s highest priority at the time. Visit our giving page at ovc.uoguelph.ca/give. Tax receipts are provided.

The University of Guelph charitable registration number: 10816 1829 RR 0001